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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,536	10/29/2001	Rajan Kumar	GDS_NP_2001_001	8086

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EXAMINER

LAM, ANN Y

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/017,536	Applicant(s) KUMAR, RAJAN	
	Examiner Ann Y. Lam	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,9,10,13,17,18,21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) 5-8,14,15,19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,9,10,13,17,18,21 and 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 4, 9, 10, 13, 17, 18, 21 and 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the different substrates" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim. Also, the claim only requires that at least one of the substrates has an array of immobilized molecules. The limitation at issue appears to require that at least two substrates have immobilized molecules.

(The remainder of the claims are rejected under 112, second paragraph because they depend from claim 1.)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 9, 13, 18 and 21, 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Campbell et al., 6,168,914.

With respect to claim 1, Campbell et al. disclose a device comprising:

at least two substrates (24 and 28, see fig. 3 and 4, and col. 13, lines 3-21) stacked atop each other, wherein at least one of the substrates contains fenestrations (40, see fig. 4) larger than 1 micrometer (col. 16, lines 46-49);

immobilized molecules of at least one first chemical species (col. 20, lines 32-33) created on at least one surface of at least one of the substrates, wherein molecules of each immobilized chemical species are located in distinct and known regions of the surface of the substrate (see fig. 4); and

the array bearing regions of the different substrates are not in contact with each other (see fig. 4); and

wherein the device is capable of receiving a solution containing molecules of at least one second chemical species that comes in contact with at least one of the first chemical species (see fig. 3, and col. 13, lines 12-14).

As to claim 3, at least one of the substrates contains more than 1, but less than 100 fenestrations (see fig. 4).

As to claim 9, the immobilized first chemical species comprises molecules of a surface modification (col. 20, lines 40-44).

As to claim 13, at least one of the array elements present on each of the array is not present on any other array (col. 4, lines 23-25.)

As to claim 18, at least one of the substrate is made of glass (col. 17, line 1).

As to claim 21, the device is capable of separation into individual substrates after contacting at least two chemical species (col. 14, lines 40-45).

As to claim 23, at least one of the first chemical species present on one of the substrates is present on every other substrate (col. 4, lines 20-22).

As to claim 24, the second chemical species comprises molecules of protein (col. 23, line 38-41).

As to claim 25, Campbell et al. disclose a device comprising:

at least three substrates (i.e., plurality of 24 and 28) stacked atop each other, wherein at least one of the substrates contains fenestrations (40, see fig. 4) larger than 1 micrometer (col. 16, lines 46-49);

at least one array of immobilized molecules of at least one first chemical species (col. 20, lines 32-33) created on at least one surface of at least one of the substrates, wherein molecules of each immobilized first chemical species are located in distinct and known regions of the surface of the substrate (see fig. 4); and

the array bearing regions of the different substrates are not in contact with each other (see fig. 4); and

wherein the device is capable of receiving a solution containing molecules of at least one second chemical species that comes in contact with at least one of the first chemical species (see fig. 3, and col. 13, lines 12-14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell et al., 6,168,914.

Campbell et al. teach the invention substantially as claimed (see above with respect to claim 1).

However, as to claim 4, Campbell et al. do not disclose that the substrate has 100 or more fenestrations. Campbell et al. however teach that the number of reaction zones may vary (col. 16, lines 37-38). Moreover, it has been held however that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. In this case, Campbell et al. disclose the general conditions of the claim and the number of fenestration being over 100 is an optimum or workable range, and thus its discovery would involve only routine skill in the art according to *In re Aller*.

Moreover, as to claim 10, Campbell et al. do not teach that the substrate is less than 0.5 mm thick in the part that bears the array of molecules. As to claim 17,

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Campbell et al. do not teach that the substrate is less than 100 micron thick in the part that bears the array of molecules of the first chemical species.

Campbell et al. however teach that the part that bears the array of molecules is a membrane (see col. 16, lines 25-27). Moreover, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Campbell et al. disclose the general conditions of the claim and the thickness of the membrane being less than 0.5 mm thick or less than 100 micron thick is an optimum or workable range, and thus its discovery involves only routine skill in the art.

Response to Arguments

Applicant's arguments with respect to the above rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on M-Sat 11-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A.L. 


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02/27/06